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Lawyers' economics versus economic analysis of law: a critique of professor Posner's "economic" approach to law by reference to a case concerning damages for loss of earning capacity

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Abstract A methodological critique of the Chicago School of legal economic analysis, in particular Posner's approach, is illustrated by an example characterizing Chicago-type 'analysis of law'. Although the discussion of the example referred to may be interesting in its own right, its purpose here is to suggest a more general framework of criticism in order to allow for generalizable conclusions. The suggestion of an alternative interpretation and solution to a particular legal problem serves to point out some limits of the methodology Posner has adopted. This applies more generally to the delineation of the limits of the rôle economics can play in actual litigation in helping judges and juries to arrive at fair as well as socially efficient solutions.

Keywords Economic analysis of law · Law and economics · Posner · Chicago School · Methodology · Social efficiency

JEL Classification K00 · K13 · K41 · B41

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1 Introduction

Economic efficiency is the bedrock upon which rests what can (easily) be called the Chicago approach to law and economics that was "established" in the early 1970s, in particular by Richard Posner.[1] It is the comprehensive view[2] which Posner and his followers use in order to organize the dogmatic system of that growing part of the law which they feel is amenable to the economic analysis of law. As Posner said, at the very beginning of his *Economic Analysis of Law* (1977 [1973]):

> Coase suggested that the English law of nuisance had an implicit economic logic. Later writers have generalized this insight and argued that many of the doctrines and institutions of the legal system are best understood and explained as efforts to promote the efficient allocation of resources. (Posner 1977, 17)

This comprehensive view serves interpreters (such as professors of law, judges, policy makers etc.) to "determine the proper content of legal rules and evaluate the performance of the legal system as a whole" (Ackermann 1977, 11). This is, where the practice of economic analysis undergoes a peculiar methodological change, where economic analysis of law becomes what we suggest to call "lawyers' economics". And this is precisely what we would like to demonstrate in this article. Our twofold claim is that Posner's way of applying efficiency corresponds to "lawyers' economics" and, complementarily, that it differs from what an economic

[1] Let us note here a certain ambiguity between the positive and normative dimensions of law and economics. Chicago economics clearly attempts to be positive; a notion which is defined in terms of a peculiar interpretation put forward by Friedman (1953). But the law is clearly a normative body of knowledge and reasoning. Economic analysis of law as practiced in Chicago is an attempt to somehow blend a positive science into a normative body of knowledge and reasoning—to apply economics to law. Although a distinction between normative and positive is rather apparent, it tends to be blurred and sometimes even overlooked in the course and practice of legal-economic analysis, when this analysis is put forward by leading scholars in the field. In its purest form, the economic analysis of law is characterized as an attempt to study a body of legal rules and doctrines by means of applying the methods of positive economics. Thus, a positive science is used to study the normative one; there is no paradox involved. However, there is an ambiguity between the positive and normative role efficiency plays in Chicago law and economics: efficiency status as a paradigm of positive economic analysis, *à la* Friedman but is also used as an important rationale of the law itself.

[2] It was Bruce Ackerman recently, who emphasized the contrast of two fundamentally different opinions about the ultimate objective of legal analysis. On the one hand, he saw a group which he called the "policy makers" defined as those who understand the legal system to contain, in addition to rules, a relatively small number of general principles describing the abstract ideas which the legal system is understood to further. This set of principles is the "comprehensive view". Richard Posner is an almost ideal representative of such an attitude with his emphasis on allocative efficiency being the ultimate end of (considerable parts of) the law. Quite different from this is the point of view taken by the "observers". The "observers", instead of supposing the predominance of a "comprehensive view" which governs the interpretation and application of legal rules, first try to determine the extent to which, in a particular case, a legal rule vindicates the practices and expectations embedded in, and generated by, dominant social institutions. "Rather than grounding his decision in a comprehensive view stating the ideals the legal system is understood to serve, the observer will instead seek to identify the norms that in fact govern proper conduct within the existing structure of social institutions. Having articulated the existing pattern of socially based expectations as sensitively as he can, the observer will then select the legal rule which, in his best judgement, best supports these institutionally based norms." (Ackerman 1977, pp. 11–12)

analysis of law would be. Posner suggests that efficiency—Pareto optimality—would be reached if the law or, to be more precise, a court would determine the damages to be awarded to an individual by mimicking the market—this corresponds to the lawyers' economic approach. Why this procedure is inadequate and how it differs from an economist' approach to a legal problem? These are the questions we would like to discuss in this section.

Before concluding the introduction with a brief survey of the entire paper, two warnings need to be issued. The first refers to the possibility of criticizing an entire approach by reference to a single author. In the context of this paper, the term "Chicago School" is used to identify an approach to legal economic problems, which relies heavily on the preposition of "efficient" solutions, generated by markets, thereby taking for granted the actual structural patterns in which these markets operate. These institutional patterns serve as constraints to the operation of markets. Still, the solutions which market processes generate are alleged to be efficient not only in terms of these specific contexts which lead to their generation (i.e. Pareto-efficiency), but they are also supposed to be socially desirable in some usually not clearly specified meaning of the term. This allegation is a non-sequitur as long as the social structure, in which markets operate, has not been justified. The author is, of course, aware of the difficulties which arise when an entire school is criticized. As schools consist of individual scholars, there will always be a variance in emphasis and commitment to specific paradigms and arguments. Therefore, I confine myself to refer mainly to Richard A. Posner, who is considered to be a leading as well as a representative scholar in the field of legal-economic analysis of the Chicago type.

Secondly, and relatedly, this paper is not intended to give complete critical assessment of Richard Posner's economic analysis of law. Only one specific aspect of lawyers' economics, a misperception of economic theory by lawyers, is elaborated, and this criticism applies neither to his entire book nor to his entire work. Instead, I want to deal exclusively with the question; "What can be the contribution of economics to law?" or, alternatively, "How can we prevent economic analysis of law from being turned into lawyers' economics?". This I do partly in an abstract way, in terms of a methodological critique. This type of criticism, however, often turns out to be dry and not easily applicable to current academic practice. Therefore, I have chosen a specific example, which fulfills two criteria: it poses a meaningful economic problem, and it has been dealt with by Posner in a characteristic way. The analysis of this problem and the discussion of Posner's solution, however, is also interesting in its own right.

Accordingly, the subsequent analysis begins with a discussion of a specific legal problem and the solution to this problem as proposed by the Chicago approach to economic analysis (Sect. 2), proceeds with the discussion of the efficiency criterion adopted by Posner (Sect. 3), continues to analyze the forensic process in terms of the interests involved in the procedure adopted (Sect. 4), and criticizes Posner's solution in terms of the abstract model and in view of the institutional outlined in the proceeding (Sect. 5). An alternative formulation of an efficient solution to the same legal problem is then presented in Sect. 6, and the analysis concludes in Sect. 7 with a methodological critique of the Chicago approach to legal economic analysis,

which relies on both; conclusions drawn from the analysis of the particular case under review as well as from the abstract methodological discussion.

2 The case

Consider the case of an unfortunate truck-driver who, as a consequence of a professional accident, is left 100$ disabled.[3] In general, it will now be up to the court to determine the amount of damage the truck-driver is entitled to. According to prevailing American legal practice, the court will insist on a lump sum-payment equal in value to the stream of earnings the truck-driver would have expected in the absence of the accident. This is also what Posner suggests courts should do: "(C)ourts, rather than ordering the defendant to make periodic payments during the period of disability (…), order him to pay the victim a lump sum equal in value to the expected stream of earnings." (1977, 144)

Then, Posner is slightly imprecise in his assessment of what courts ought and/or (try) to do next. He offers his reader a choice among at least two different ways of computing the lump sum. First, the lump sum could be computed according to the length of the period of disability, which is obviously a function of the length of the life of the victim, that is "by simply multiplying the amount of the periodic payment by the number of periods during which the victim is expected to remain disabled." (Posner 1977, 144) This criteria clearly bears the stamp of welfare and fairness considerations.

However, he immediately rules this way of computing the lump sum out, insofar as the *periodicity* of the payment is involved, not insofar as the criterion determines the number of years during which the compensation has to be paid. He writes that "[t]his method of computation would overcompensate the victim, because at the end of the period he would have received not only an amount equal to the sum of the periodic payments, but interest on that sum, which he would not have received had payment been made periodically rather than in a lump sum at the outset." (1977, 144)

Then Posner introduces a second method of computation, in which the lump sum would be computed to be equal in value to the expected future stream of earnings: "The lump sum should be equal to the price that the victim would have had to pay in order to purchase an annuity calculated to yield the periodic payment for the expected duration of the disability; and no more" (Posner 1977, 144). Now, one sees that the expected stream of earnings in turn is mainly dependent on the expected length of work-life; normally, there is quite a difference between the length of life and the length of work-life. But that is not all, the second criterion is designed so as to determine the price in an involuntary transaction. Only when considering this criterion, we may determine some economic rationale behind the legal doctrine. Furthermore, let us add, Posner's second criterion is neither a complete description

[3] The example as well as the solutions, which are exposed to some criticism in this paper, are taken from Posner's "Economic Analysis of Law", ch. 6.13, as amended by some further elaborations and extensions Posner indicated during his 1976 spring course on "economic analysis of law" at the University of Chicago School of Law.

of legal practice nor an unabridged application of economic theory. Indeed, litigation in practice is not confined to seeking compensation of foregone earnings. Similarly, economic analysis is not solely confined to material income. Both legal practice and economic theory will take into account the general level of individual wellbeing i.e. utility, and therefore compensations will be granted for immaterial damages.

Then, the next step consists in determining the precise amount of compensations to be paid in this case to the truck-driver. A lawyer who follows Posner's legal-economic advice—or, in other words, a Chicago-based approach—will start by estimating the amount of earnings which would have been obtained had the truck-driver not lost his capacity to earn his own income. It is assumed to be the court's task to estimate the precise amount the disabled person would have earned. This amount then determines the lump sum to be awarded, that subject to three considerations.

- *First consideration*

The wage profile by age for the occupation in question has to be taken into account, if one excludes the possibility that the disabled person might have changed his profession.

- *Second consideration*

Apart from the individual wage received, the wage level in a particular profession over time is subject to changes as well, the driving forces behind these changes, according to Posner, being secular inflation and productivity variations. Posner suggests the court to calculate the rate of secular inflation by subtracting from the prevalent rate of interest those parts which represent the normal cost of capital as well as the "risk premium". While the secular rate of inflation has to be taken into account when computing the lump sum to be awarded, the cost of capital and the risk premium are to be left out of the consideration. In addition, the disabled person would have benefited in his earnings from productivity increases in his profession, and these likely wage increases due to increased labour productivity have to be estimated and added to the lump sum to be awarded.

- *Third consideration*

Finally, the probability that the disabled person would have lived during each of those periods, in which in the absence of the accident he would have earned income, has to be taken into account.

Now, it becomes possible to propose a solution—actually, two solutions—to the problem the Court has to solve, that is to determine the accident victim's lost wages. To Posner, the "calculation … is… straightforward." (1977, 148)

Solution A The first solution is the more precise. Posner describes it as follows, for a 25 year old truck driver for whom we would have to determine the lost wages until his thirty-fifth year:

> we would multiply the current wages of a thirty-five year old truck-driver (discounted by the probability of a twenty-five year olds living to thirty-five) by 1.07,[4] and the product of that multiplication by 1.07, and so on until we had compounded his current wages ten times at a 7% rate of interest. This process would be repeated for every year of disability, and the products summed. (Posner 1977, 148)[5]

Solution B Then, Posner proposes a second—and much simpler—solution that is based on the present scheme of truck-drivers' income as it is distributed according to age. For each age portion, the average truck-driver's income is multiplied with our particular truck-driver's statistical expectation of reaching the specified age. The sequence of these products is then summed up and results in the lump sum awarded.[6]

According to Posner, solution (B) is superior to solution (A). He claims that, there are "enormous uncertainties" (personal communication) involved in the computation involved by solution (A). The simplification introduced with solution (B) tends to increase uncertainty—statistics are not absent from the calculus—but, at the same time, it decreases error probability. Indeed, the additional disadvantage of incremental uncertainty implied in the simplified solution (B) is more than outweighed by its increased workability (i.e. decreased error probability) particularly in a jury system. The simplified solution B, supposedly superior to the more precise solution A.

3 Economic criteria for resolution of the legal conflict

In order to criticize both versions, A and B, of Posner's solution, a word is necessary on the criteria or standards, which an economic solution to the problem posed by the legal conflict has to meet in order to be acceptable.

Acceptability is the tradition of Paretian analysis as defined in terms of the interests of the individuals involved in the situation which poses the problem to be solved. These individuals have to accept the solution, e.g. in terms of a "contractarian" way of acceptance (Buchanan 1975).

[4] Posner assumed the rate of secular inflation to be 4%, and the rate of wage increases due to productivity of labour increases to be 3$.

[5] Posner is ambiguous in that it never becomes clear whether he wants to rely on expected lifetime probabilities or expected work-life probabilities. The differences are quite substantial. He probably relies on the view that, given that only earning capacity is to be compensated, what counts are exclusively those periods in which it was to be expected that the victimized person would have belonged to the working population. This seems to be a rather limited perspective of what is to be compensated, even granted that he wants to treat "pain and suffering" separately in addition.

[6] This presupposes that as a general rule and similar to Posner's example (Posner 1977, 148) the percentage of productivity wage increases is roughly equivalent with the sum of the costs of capital and the risk premium, as reflected in the current interest rate. This is a convenient assumption in terms of Posner's exposition, but it remains to be seen whether it reflects an empirical observation. It is, however, not surprising that this simplifying assumption is made exactly where the demands on economic expertise of participants in legal decisions are stretched to unimaginable extremes.

As mentioned in the introduction, at the heart of Posner's economic analysis of law is the notion of (social) efficiency. This is a key term of political economy, that part of the discipline which explores social processes of interaction among individuals with differing interests.[7] Some of these interests may be strictly antagonistic, others partly compatible, and still others completely harmonious. It is in the second category where trade-offs are necessary between differing interests where one interest can be served better only at the expense of another. The Pareto criterion singles out those situations, in which no one interest can be furthered if not at the expense of some other. Socially efficient, according to this criterion, are only solutions of maximum compatibility of the interests involved, given a specific starting point which represents the initial endowment of wealth, power, etc. of the individuals participating in the process of coordinating their differing interests. A proposed solution is Pareto efficient only if no alternative solution can be shown which meets the interests of at least one involved party better than the proposed solution without negatively affecting the interests of any other party (involved).

Pareto efficiency is not singular to economics. The Pareto criterion of social efficiency applies in principle to forensic processes in the same sense as it does to economic processes; it applies to legal conflict resolution as well as to market interaction. This is not always obvious in Posner's economic analysis of law, where economic efficiency sometimes seems to be assumed to be the goal of the entire legal system; where instead efficiency is never an end in itself but a technic of combining different ends or interests. In particular, Posner's insight that "many of the doctrines and institutions of the legal system are best understood and explained as efforts to promote the efficient allocation of resources" (1977, pp. 16/17) is not to be interpreted as implying that the entire legal system should serve as an instrument in the maximum attainment of some economic goal such as the social product, stability of the price level, zero voluntary unemployment or some other such goal. This would be already impossible because of the lack of a single all encompassing economic criterion; such an interpretation would moreover grossly misconceive the scientific function of the economic analysis of law. Given that there are different systems of inter-individual coordination, such as the market, systems of planning, the legal system, social norms, decision making processes in the polity etc., the area where the economic analysis of law can be applied most fruitfully is the overlap between legal and economic processes, in particular the area of close substitutability of legal and economic processes. The Paretian criterion of social efficiency then serves to design solutions, which minimize frictions and closely fit legal institutions to autonomous social (i.e. economic) processes.

There are, of course, many ways in which processes of legal coordination and conflict resolution may be organized. In particular, we may follow Tullock (1980) and distinguish between the Anglo-American and the Continental system of legal

[7] One process which serves to coordinate differing interests may be singled out, because it has attracted economists' attention more than any other: the market. Nonmarket economics, however, such as the public choice approach, analyzes various alternative processes different from the market, such as voting, group decision making etc. As the solutions generated by market interaction can be shown to meet the Pareto-criterion, given the absence of market failures, the market solution often serves as a standard to evaluate the outcome of alternative (substitute) processes.

procedure, the difference being that the Anglo-American adversary system presupposes strictly antagonistic interests of the parties in court, while the judge is supposed to be a neutral arbiter, whereas the Continental system presupposes the involvement of third interests not represented by either party, to be taken care of by an active judge. In both systems of forensic conflict resolution, to bearers of conflicting interests formalized rôles are ascribed which generate a pattern of interaction intended to produce some "rational" solution. In view of the interests involved, a solution which meets one of the involved interests better, without producing negative effects on the realization of "any" other interests involved, is clearly superior and systematically more "rational" in the sense that it represents a. Pareto-superior solution. Thus, in order to discuss socially efficient solutions, the different interests which ought to be efficiently reconciled have to be taken into account.

In forensic situations of conflict resolution, these interests involved are the following:

(a) The parties in conflict demand a conflict resolution; to them, in economic terms, this solution is a jointly consumable private good. Of course, the characteristics of this good are the cause of the dispute. Some parties quite often would obviously prefer to have no solution at all in the sense that the status quo be made the prevailing solution.
(b) The public good produced jointly satisfies society's interest in the solution of inter-individual conflicts among its members; the society as a whole has an interest in the resolution of such conflicts, because accumulation of unresolved individual conflicts can prove to be destructive for the society as a whole in the long run. Insofar as the particular case in question is not just a matter of routine, the legal system produces another public good in providing a solution to a problem, on which conflicting parties in sufficiently identical conflict situations can rely without even the necessity of using the court system. No party can be excluded from the use of the legal pattern of conflict resolutions already worked out; on the contrary, markets and other processes of inter-individual interaction rely on the continuous production of this public good as an input to their proper operation. To conclude, society has an interest in court because of their pacifying as well as legislative functions.
(c) Another interest (possibly) involved is the interest of by then still uninvolved third parties, which as a consequence of a particular conflict resolution might be affected secondarily. This occurs, when the litigating parties try e.g. by using the forensic process and its intrinsic sovereign power—to externalize the negative effects of their particular conflict. In the example used for demonstration this could be observed if the parties tried to arrive at a solution which makes the public responsible for the loss inflicted upon the unfortunate truck-driver.

The very notion of externality, however, presupposes a specific "natural", "normal" or "just" solution, compared to which externalities can be shown to arise.

Therefore, the externality issue ultimately involves the question of who is to bear which costs. In the example used, it was presupposed that all costs should be borne by the litigating parties, although there exists undeniably also a public interest in the proper solution of the problem, which to some might serve as a justification for externalizing part of the costs of the inter-individual conflict.

In order to determine whether the solution proposed by Posner, and outlined in Sect. 2, could attract support from the parties involved in the forensic process, these parties' interests must be examined beforehand. An efficient solution will be one that cannot be improved upon in the light of the specification of the interests involved. These interests will be analyzed more specifically in the next section.

4 Applying basic criteria: the economic rationale for granting damages

In the specific example of the unfortunate truck-driver discussed in this article, the following parties are involved in the forensic procedure of conflict resolution. The interested parties are (a) the disabled truck-driver[8]; (b) the truck-driver's former employer or his insurance company[9]; (c) (possibly) the general public. Then, there are also the deciding parties—namely the judge and the jury.

One may suppose, at least idealistically, that neither the judge nor the jury have a personal stake in this conflict. However both—as any forensic procedure—fulfill an economically relevant social function: pacifying conflicting parties by either solving conflicts or socially neutralizing clashes of interests. This will be done by satisfying two criteria: the decision has to be legally correct and legitimate.

It is primarily up to the judge to secure the legality of the decision; and—insofar as new law is developed by means of judicial decision making—legality requires continuity. The specific solution has to fit into the existing structure of rules and decisions, it has to be an integral part of the existing body of legal knowledge, because the law is a dogmatic system of rules, norms, and reasonings. This implies that the solution has to be predictable,[10] at least to a certain extent, to preserve the continuity of the legal system. Continuity does not only imply confining the judge to incremental departures from what was formerly conceived as being the law, but also in a systematic sense that new law should systematically be compatible with the old law in order to make sure that the general rules of reasoning and arguing can continue to be applied. Continuity and predictability are the prerequisites for the

[8] One may assume that he will seek maximum damage payment.

[9] For his part, the employer will try to keep the lump sum to be paid as low as possible. This might actually well prove to be a short run strategy. Both in the job market and in the insurers' market, in the long run a "generous" claim settlement attitude might turn out to be superior.

[10] There is never certainty in the prediction of the outcome of forensic processes; in this case, the forensic process will not be used as a problem-solving device; the forensic process has not only the function of problem solving but also of generating information, fact finding. On the basis of imperfect information as to the facts, there can be no certain prediction of the solution ultimately obtained (on the issue of information and liability, see the recent paper by Hylton et al. 2015). This distinction is not meant to indicate mutual exclusion; it is highly doubtful whether the jury in general is able to fulfill the role assigned. Therefore, the judge will in general—and even more so in the continental system, which assigns an active role to him—have to reconcile legitimacy and legality when forming his own opinion.

legal structure to serve as a frame of reference for social activities, where these activities may be interconnected in non-legal, for instance economic or social group processes.

Apart from being legally correct, a decision has to be legitimate,[11] given that forensic procedures fulfill a pacifying social function. In our specific example, the pacifying function of the forensic process demands the reconciliation of the interests of the parties involved; and these interests are given. Sometimes, a second alternative of modifying the interests involved, for instance by moral suasion, is available. Then, a solution is found for those modified interests. In our particular example, however, at least the truck-driver's pattern of interests is not easily modified. His material basis of living is at stake. The forensic process has to generate a solution which provides the truck-driver with a new material basis of existence. If the forensic process fails to achieve this result, the solution will apart from its apparent lack of legitimacy, although consistent in a legal sense—turn out to be socially inefficient in the sense of generating a negative externality to the public. Given the institutional framework of the present welfare state, the truck-driver in this case would eventually have to rely on social welfare payments, if the lump sum awarded proved to be insufficient.

Also, the judge and the jury produce a collective good in providing and elaborating upon a frame of reference on which parties with similar conflicts can rely in the future and to which (economic) agents can refer and which they also can adopt when performing their respective transaction activities. In order to fulfill its pacifying function, the forensic process has to generate a solution which appears to be just to those concerned and is acceptable to any citizen who might find himself potentially in the situation of one of the interested parties. The solution has to be legitimate in this sense, and it is up to the jury to primarily secure but also determine the solution finally generated by the process.

In terms of the functional operation of economic processes, which legal institutions may be designed to assist, the problem to be solved is this: an individual has lost a considerable part of his "endowment" which enabled him to participate in the economic game. This loss, as a matter of social concern, has to be made good in the sense that the individual in the absence of any possibility for natural restitution receives an equivalent endowment. In the case of our unfortunate truck-driver, the lost working capacity is to be replaced by a damage payment to the victim.

5 Criticism of Posner's solution by applying the criteria derived

Our claim is that, given the constellation of interests involved in the forensic procedure of conflict resolution, the solution proposed by Posner, in the form of either alternative A or B, is likely not to be socially efficient. This occurs because his solution suffers from various deficiencies which can obviously be improved upon. We do not target the technical limitations that could be improved. We argue

[11] The importance of the function to pacify and produce decisions felt to be legitimate is the subject of Luhmann's 1969 study.

that these deficiencies come from Posner's attempt to simulate ("mimic") market operations by legal means. We suggest that what should be done instead is to design legal solutions which would allow autonomous inter-individual processes to generate the results desired.

5.1 Inefficiency and unfairness

The inadequacy of Posner's solution primarily comes from the fact that, strangely enough either alternative of formulation violates one of the criteria he set forth himself in the same context. Although Posner insists that "the lump sum should be equal to the price that the victim would have had to pay in order to purchase an annuity calculated to yield the periodic payment for the expected duration of the disability" (1977, 144), he nevertheless computes the lump sum to be awarded on the basis of the periodically expected stream of earnings multiplied with the truck-driver's statistical expectation of living each of these periods. In practice, however, the expected length of life will only fortuitously coincide with the actual period that person will live.

Therefore, the unfortunate truck-driver of our example will either end up penniless for living longer than (the court as advised by one of Posner's disciples had) expected or else bequeath his lucky heirs with the remaining of his recovery not used up by then. In either case, the compensated victim would live with the permanent fear of not being sufficiently provided for during the days of his old age.

This is from any perspective an inefficient solution. The solution Posner provided is inefficient for two reasons. First, it can be easily improved upon (see Sect. 6) and, second, it possibly generates negative externalities to the public purse. Nothing, of course, could prevent the compensated victim from buying an annuity with the lump sum awarded. However, this would only be an accidental outcome of Posner's solution, by no means a necessary one.[12]

[12] In the course of an oral discussion, Posner raised this further additional problem: In practice, the computation of the lump sum on the basis of expected lifetime learnings (this may in special cases coincide with the expected work life earnings) is based on the assumption that the disabled person will enter an insurance contract covering his old age. When a lump sum is awarded, however, the disabled person will face new investment possibilities he otherwise would not have had. The cumulative sum of his lifetime earnings at his disposal at one point in time, this person is able to pursue various investment strategies. This additional freedom of choice, Posner considers to be an advantage which is actually a markup on the compensation awarded. It depends on the basic consensus in a society whether this markup is also welcomed from a social point of view. In a social welfare kind of setting, the compensation could be more easily wasted and squandered than the earning capacity for which it was awarded "in exchange". The additional freedom of choice can generate negative externalities to the public purse for reasons of moral hazard. An investor is less risk averse when knowing that eventually he can rely on social security and welfare payments, if the investments should prove to be unprofitable, as compared to an investor whose decision will affect the very essence of the material basis of his living. An unprofitable investment, also, may be more probably made by an inexperienced investor than undertaken by an experienced one. Victimized persons are cast into the investor's role inadvertently "by accident", when given a lump sum without further qualifications; they tend to be less experienced investors as compared to the average investor. Although this does not imply that the compensation awarded should not entail some additional freedom of choice, it seems doubtful whether this was the intended or desired result of the liability rules applied. Given the constellation of interests outlined in Sects. 4 and 6, these doubts seem to be even more justified.

Posner's solution is unfair too. The fairness criterion underlying this statement is an extremely weak one: No jury aware of the relevant alternatives to Posner's solution would predictably follow him.[13]

Posner's result, however, is unfair by intention. Unfairness, here, is legitimized by efficiency gains. Not only the solution "economizes on administrative expenses" (Posner 1977, 144). Also

> it avoids the disincentive effects of tying continued receipt of money to continued disability. Having received the lump sum, the victim has every incentive to overcome his disability sooner than has been estimated. A system of periodic disability payments, in contrast, would be the equivalent of a 100% tax on earned income. (Posner 1977, 144/145, footnote omitted)

This quote of course does not justify the peculiar mode of calculating the damages to be awarded. It deals exclusively with the question of whether to prefer a lump sum to periodic payments or not. The assertions rest on the hidden assumption that periodic disability payments (should?) be tied to the continuance of the disability. There is, however, no reason of efficiency apparent why this should be so. The victim can very well continue to receive his disability payment in the case that he was able to overcome the effects of his disability partially and/or sooner than was expected and could consequently earn some additional money.

To this, Posner in a private letter (Posner 1976) reacted as follows

> I was perplexed by your discussion of the "hidden assumption" that periodic disability payments would terminate the end of the disability. Of course, there is no necessary reason why disability payments should terminate when the disability terminates, but if they are not to do so, I can see no reason why anyone would want to make the payment periodic. The case for periodic payment is that circumstances may change and the periodic feature enables payment to be adjusted to the changed circumstances. That to me implies discontinuance of the payment when the disability ceases. I have never before seen it suggested that disability payments should continue beyond the termination of disability. (Posner 1976, pp. 1–2)

To distinguish, the incentive question has nothing to do with the mode of payment (either lump sum or periodic) and everything with the prior determination of size and mode of payment of the damages to be awarded. The disincentive effect would even operate in the form of moral hazard if the victim, by using the awarded lump sum, bought an annuity contingent on the continuance of his disability. For this reason, although it may never have before been suggested, a policy avoiding disincentives to overcome disabilities and socially reintegrate would clearly be more effective if the link between the continuance of some disability and the continuance of the receipt of the respective disability compensations were omitted. Even calculations on the basis of social efficiency would probably suggest that (apart

[13] This does not imply that Posner's solution could not be identified with observable jurisdiction; the assertion is, however, that a jury confronted with a choice between the alternatives of Posner's solution and the solution outlined in Sect. 6 would prefer the latter.

from the obvious welfare considerations involved) it would be cheaper for a welfare state to a certain extent to grant disability allowances even beyond the continuance of disabilities and thus avoiding other outlays which would have been necessary in the absence of strong positive incentives to overcome disabilities. This, however, in the absence of careful calculations remains a mere assertion.

5.2 Wage increases and productivity improvements

There is another reason to consider Posner's solution inadequate. Indeed, Posner's efforts to estimate the expected productivity improvements of truck-drivers and potentially ensuing wage increases seems to be misleading as well. Most obviously, the "marginal productivity = wage" equation is an undue application of the theoretical analysis put forward in the context of specific and highly abstract economic models to well defined practical problems of legal conflict resolution. Apart from this, the "expected-productivity-analysis" is not pertinent to this particular conflict resolution either. It starts from the assumption that the particular truck-driver in question would have been a truck-driver during all of his life, if he were not disabled by accident. The assumption is by no means justified.

In a different context Posner himself has pointed out that it would be unfair in the case of a disabled housewife who happened to be trained as a lawyer (sic!) to grant her only the damage accruing to an average housewife instead of the damage a lawyer might be entitled to. In terms of the opportunity cost concept, the work for her household and the leisure she enjoys would, as valued by her family and herself, at least correspond to a lawyer's income; otherwise she would have been a lawyer, still. Therefore, still according to Posner, a lawyer's income would be the appropriate measure for the determination of the lump sum to be paid in damages to the disabled housewife.

What Posner really shows with this example is that the actual income is not an appropriate starting point for the computation of the expected life income and that therefore particular circumstances have to be taken into account. The opportunity cost concept is one device which may be relevant for such considerations. The principle, however, applies to the truck-driver of our previous example as well as to lawyer-housewives.

If particular circumstances for lack of further information cannot be taken into account, it can at least be stated that the court's intention in awarding a lump sum equal to the expected lifetime earnings will include the participation of the disabled person in the general growth of the economy and ensuing average wage increases experienced by the particular society—on the theory, that different growth rates in different industries produce fluctuations of employees in these respective industries. In our example, an average truck-driver, in view of stagnating wages in his profession, can be expected, with a certain probability, to step out of his job and seek one which is better paid and suits his particular capabilities and inclinations.

To this, Professor Posner reacted as follows: "You object to the computation of the truck-driver's lost earnings on the ground that he might not remain a truck-driver all of his working life. I would have no objection in principle to estimating the probability that the truck-driver would remain a truck-driver and the probability of

his entering other occupations, and to computing his lost earnings by multiplying the various probabilities by the anticipated wages of the various occupations. This would complicate the analysis, but manageably. Nothing in my analysis excludes this kind of refinement. But it doesn't follow, as you suggest (…), that it is a mistake to relate the truck-driver's damage award to wages in trucking. The probability may be very high that he will remain a truck-driver and not become a bank president. Still, it would clearly be preferable on efficiency grounds to evaluate his lost earnings on the basis of truck-drivers' wages." (Posner 1976, p. 2)

This answer has shown the differences quite clearly. Posner is not interested in the basic rationale for awarding damage payments, i.e. substituting an equivalent endowment for the lost working capacities. Instead, he tries to partially mimic market processes, disregarding interdependencies. Who should estimate the relevant probabilities? And on which basis of estimation? This would not only complicate the analysis, and in any case not manageably, it would result in lawyers adopting and using some economic jargon. It is a mistake to relate the truck-driver's damage award to wages in trucking (a) already in the static case, because already here the opportunity cost concept has to be applied; (b) more so in the dynamic case, because economic theory suggests that if the wage level in the trucking industry departs from the average wage level considerably, this will have a strong effect on the probabilities of particular persons to remain in the respective industry. Therefore, if the wage structure of a particular industry remains close to the average over all industries, one could as well take the overall average; and if it departs from the average, one has to take the average wage level, given that over a time span of generally more than a decade of productivity variations (and their respective effects on a wage structure) of a particular industry cannot be safely guessed, nor can the probability of a particular worker to remain in his industry under these changing circumstances be appreciated with reasonable care. There is no better index than the average wage.

Therefore, it is hard to see why the truck-driver's future income should be tied to the economic well-being of a profession in which he neither continues to participate nor on which future prospects, dependent on technical progress etc., he has any influence whatsoever.

6 An alternative solution

The analysis so far has suggested that what we expect from the court, which has to somehow settle the disabled truck-driver's claim, is a solution which guarantees the truck-driver's permanent material security in the sense that he, despite his disability, receives his expected life-income as if he were not disabled. As it is counterfactual to assume away the disability, the assumption has to be made, in the absence of any further contradicting information, that this particular truck-driver would have participated in the ups and downs of society's well-being like an average citizen—not like an average truck-driver, given that there is only evidence on the starting point of his suddenly interrupted professional future, not of the future itself. All the court can do under these circumstances is to specify the general level of periodic

payments it wants the truck-driver to receive, probably taking into account his actual earnings and his opportunity costs in order to assess his particular situation. The periodic award thus determined can be tied to the average income variations of the society in question. What remains is that the court has to see to it that this decision will be carried out. This begs the question of how the court's decision can be implemented.

Assessing the future development of economic variables is difficult, and it is hardly the court's task to assume this onerous burden. Iudex non calculat; and the judge need not even calculate. An economist's proposal is not to mimic future economic developments in the courthouse, the economist's proposal is predictably the generation of a market solution. As soon as the court has determined the periodic award in current prices which it wants the disabled person to receive, specified seniority allowances as well as the index to which the periodic award in current prices is to be tied, it can be left to the interested parties to find an economic agent who is willing and able to offer an annuity against payment of the lump sum to be awarded.

The actual procedure to take place can be described as follows: the judge will fix in accordance with the jury's opinion the amount of money deemed fair to be the periodic income of the disabled person; this amount will be specified in actual prices. Furthermore, the judge will specify that this amount shall increase periodically according to the rate of inflation, the average income increase of the particular economy and the seniority boni which are in use in the particular profession the victimized person formerly belonged to.[14] In spelling out these conditions, the judge actually draws a contract for a specific contingent life annuity. The annuity contract will be the main element of the verdict in this process. The pro forma contract can be handed out to the parties with the obligation to agree on an insurer; who is willing and seems to be able to fulfill the contract. Various insurers will consequently bid in order to fulfill the annuity contract upon payment of a money amount (premium) specified, which will be equal to the lump sum to be paid.[15] If the parties turn out to be unable to agree on an insurer, the judge has to decide which bid to accept. Should no private insurer be willing to make a bid, which seems to be very unlikely, the public social security system could be obliged to enter the contract according to terms it will have to specify; these terms have to be accepted by the litigating parties, because and as long as these are unable to find a private insurer who suits their interests better.

The actual amount of the lump sum to be awarded will thus depend on the interested parties' skill to find an efficient economic agent. The periodic payments will be made irrespective of the continuance of the disability as a compensation for the physical damage suffered. There will be no disincentive effect. No calculations

[14] If the wages in the profession the disabled person formerly belonged to obeyed to a seniority scheme, this has to be taken into account according to Posner's solution B, which is based on this assumption. It can safely be assumed that the wage structure was taken into account by the later disabled person when he chose to enter the profession he belonged to.

[15] In the United States, the lawyer's fees very often are contingent fees to be paid out of the lump sum. Given that these fees can be a substantial portion of the lump sum finally awarded, they have to be taken into account when the absolute size of the lump sum is to be determined.

by the court are needed. This solution is superior to Posner's—and in this sense more efficient—because it meets the interests of some parties involved in the forensic procedure better without generating negative effects on the interests of other parties.[16]

7 Mimicking the market by means of legal adjudication?

I should like to sum up the essence of this paper by defending the assertion which its title contains: that Posner's approach is to be regarded as "lawyers' economics" as contrasted to an economic analysis of legal questions, which takes into account the methodological premises on which economic analysis rests.

Posner, in this particular example when computing a lump sum as well as throughout his book tries to simulate an economic process of inter-individual interaction by legal procedures, in particular by designing rules to be applied to forensic resolutions of social conflict. Thus, he tries to "mimic" what economic processes of deciding, in particular the market, would otherwise have generated as a solution. This implies, that at least in a theoretical sense the relationship between law and economics is one of substitutability. It can certainly not be denied that there are numerous situations, in which a decision could either be taken by market negotiation or forensic deliberation. But these are only the exceptions from the rule that it is within the confines of legal institutions where market exchange takes place. It is impossible to conceive of a decentralized economy without the basic institutions that a legal system provides; there is no market economy without property (in the sense of an attributability of possibilities for acting and deciding to a person), without the notion of contracts (in the sense of enforceable agreements), without basic institutions of liability and without institutions to continuously develop and improve this system of assignments, justified expectations, as well as individual and social security. The basic function of the law is to be the complement, not the substitute of the economy.

This is also the upshot of Ronald Coase' (1960) seminal article. Its main result, that in the absence of transaction costs legal assignments do not have allocative consequences is truly interesting only insofar as the correlate conclusion is concerned, that allocative efficiency is dependent on legal institutions, which determine the costs of transactions.

The consequences of that peculiar perception of the role of the law, which takes economic efficiency as the comprehensive view which underlies the dogmatic system of the law, can easily be demonstrated with the case taken as an example in this paper. In the truck-driver's case, Posner uses the forensic procedure to simulate a market process, where this market process does not really call for any simulation, indeed where markets operate efficiently. He neglects however the normative problem which is posed to the court, in particular to the jury, of what shall be the

[16] This procedure finally does not preclude the choice of still another alternative. The insurance market can be used to find out the market value of the contract specified. The lump sum can then, nevertheless, be given to the victim (see footnote 13). In order to get realistic bids, a fee can be paid to the insurance company which submitted the selected bid.

equivalent the truck-driver is to receive in order to compensate the loss of his earning capacity. The basic premises of the determination of the extent to which compensation is to be effected in any case have nothing to do with technicalities of applying interest rates, with the future development of particular industries or with risk premiums in capital markets; but they have much to do with what the jury thinks is fair and just. In this particular case, the jury's impression on who could have avoided an accident or not, who behaved particularly ruthlessly or not, of the general circumstances of the particular case, normally determines how much is to be paid in compensations. This is so because in the singular case, forensic procedures have a pacifying function, have to resolve individual conflicts in the interest of the entire society. However, given the verdict of the jury and, in the particular case, the description of what is to be protected by compensation, i.e. the definition of the standard of living to be guaranteed to the victim of an accident; given these normative decisions, the market can do the calculations. There is no need for mimicking market operations, where the market operates perfectly.

In the case analyzed, the economic function of the forensic procedure is the specification of the claim, not its valuation through simulation. This can well be left to market interaction, while the role of the law is to determine which process of evaluation is to be used, not the simulation of one such process without further justification. Instead of confining the function of the court system to the act of substituting a legal claim to the lost earning capacity, Posner tries to mimic the market process, which should follow the act of substitution, but which cannot replace it. It is in the market process where a legal claim can be transformed into a stream of income, income as regular compensations to be paid to the disabled truck-driver.

If, given a particular task, one process of deciding is to be substituted by another, the choice of the process finally to be used has to be justified in terms of the service this process is to render. Posner, who often as in this case does not bother to give such a justification, in so doing does a disservice to both lawyers and economists. In introducing economic deliberations where a multitude of different viewpoints is to be reconciled, expectations to the legal system are frustrated. This may result in "bad law" (Buchanan 1974). Economics as a discipline, at the same time, by applying "lawyers' economics" is treated even worse by raising suspicions against the soundness of economic principles, where these principles are misapplied; and by using legal procedures of decision making, where this should be left to the market.

A great deal of these problems arise because economics, which is the science of general phenomena, of ideal types, typified behavior and aggregate variables, is to be applied in singular, particular cases which have to be treated singularly and particularly. An entirely different matter is to comparatively analyze different legal institutions, norms and procedures from an economic point of view.

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